

REMARKS

Claim 1-19 and 22-45 are pending in the Application and are presented for reconsideration and further examination in view of the foregoing amendments and the following remarks. By the foregoing amendments, Claims 4, 28 and 45 have been amended to provide clarification. The amended claims are fully supported by the original specification and no new matter has been added.

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Claim Rejections – 35 USC § 112

In the Office Action, claims 4, 28 and 45 were rejected as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. Particularly, Examiner points out the phrase “such as” to render the claim indefinite.

Claims 4, 28, and 45 have been amended to replace the phrase “such as” with “including”. Applicant respectfully requests withdrawal of the rejection in view of the amendments.

Claim Rejections 35 USC § 102

In the Office Action, Claims 1-6, 9, 11-15, 17-19, 22-25, 39, and 45 were rejected as being anticipated by Zhang. Applicant respectfully traverses this ground of rejection. Though the following remarks are directed primarily to the independent claims, they apply with equal force to each of the claims which depend therefrom. Applicant reserves the right to challenge whether Zhang is available as prior art against the present application.

In one embodiment of the Applicant’s claimed invention, data packets of various formats, referred to as Service Data Units (“SDUs”), are packed and fragmented as necessary, into Protocol Data Units (“PDUs”) for two way communication between a node and a base station. The conversion of different data protocols or SDUs into a common data protocol or PDU is

useful, for example, to accomplish wireless local area networking, as it permits multiple devices to use the same centralized access point. The packing and fragmentation are cooperatively done (Figure 13, Page 27, second paragraph), in order to maximize the benefits of both packing and fragmentation (page 21, first paragraph). This allows higher bandwidth transmission of data which can improve the quality of service for the user.

Zhang discloses a network layer protocol aware link layer, and a method and system for transferring IP packets encapsulated in a radio link protocol (RLP) frame. The Zhang reference utilizes a variable length RLP frame format capable of sending data as a single, complete packet in a single RLP frame using a first header type (described in Figure 3), or sending a single fragment of a packet in a single RLP frame using a second header type (described in Figure 4 and 5). According to Zhang, “The present invention works by defining each RLP framing structure as an RLP frame that encapsulates either an IP packet or a fragment of an IP packet.” (Zhang, col. 2, lines 59-62)

Therefore, Zhang does not teach a method of packing data; only one packet of information is capable of being contained in each RLP frame (Column 2, Lines 41-45). Zhang does not teach or suggest utilizing the additional space in a RLP frame to send an additional packet. In fact Zhang teaches away from packing because Zhang wants the RLP boundaries to correspond to the packet boundaries. (Zhang, see, col. 2, lines 34-39)

With regard to claim 1, it includes the limitation of, inter alia, “packing and fragmenting the data packets in the first or second formats into data packets in the third format in a coordinated manner.” As was noted above, Zhang does not teach packing. Zhang further does not teach packing and fragmenting “in a coordinated manner.” The claim coordination leads to increased efficiency in the use of the available bandwidth. In fact, Zhang appears to have no description of how a decision to fragment is made. Certainly, Zhang contains no description of coordinating packing with fragmenting.

With regard to claim 22, it also includes the limitation of, inter alia, “packing and fragmenting the data packets in the first or second formats into data packets in the third format in

a coordinated manner.” Additionally, claim 22 includes “utilizing information regarding the coordinated packing and fragmentation process to allocate bandwidth of the communications link to subsequent packets of information in either the first or second formats.” (pages 20-21, and 24) Zhang has no description of using information regarding packing and fragmentation to allocate bandwidth.

With regard to claim 23, it includes numerous limitations not taught by Zhang. For example, claim 23 includes “determining if the incoming information packet is smaller than the available payload in the first information packet in the third format; storing the incoming information packet in the payload of the first information packet in the third format if the incoming information packet is smaller than the available payload in the first information packet in the third format, otherwise fragmenting the incoming information packet by storing only that amount of the incoming information packet that will fit in the first information packet in the third format in the payload of the first information packet of a third format and storing the remainder of the incoming information packet in the payload of a subsequent information packet in the third format.” Zhang does not teach such a method. Zhang has no description of comparing the size of an incoming packet to the available payload in an outgoing packet. Zhang also does not describe fragmenting a packet if it will not fit in the available payload.

With regard to claim 24, it includes, inter alia, a base station converter configured to “convert the information packets in the first or second formats to the information packets in a third format by packing and fragmenting the information packets in the first format in a coordinated manner.” As was noted above, Zhang does not teach coordinated packing and fragmenting.

Finally, with regard to claim 39, it includes, inter alia, “means for converting the incoming data packets into data packets in the third format by packing and fragmenting the incoming data packets in a coordinated manner.” As was noted above, Zhang does not teach coordinated packing and fragmenting.

Therefore, because Zhang does not teach or make obvious every element of the claimed invention, Applicant respectfully submits that claims 1, 22-24, and 39 are patentable over Zhang. Furthermore, claims 2-6, 9, 11-15, 17-19, and 25 are patentable over Zhang as they depend either directly or indirectly from claims 1, 22, 23, 24, and 39.

Claim Rejections 35 USC § 103

In the Office Action, Claims 7 and 10 were rejected as being unpatentable over Zhang in view of Jha. Applicant respectfully traverses this ground of rejection. Applicant reserves the right to challenge whether Jha is available as prior art against the present application.

First, these claims are patentable in view of the discussion of claim 1 above.

Secondly, Applicant respectfully submits that Jha cannot properly be combined with Zhang. Jha is directed to a fiber optic network, and does not deal with the communication between nodes and base stations, as it is fundamentally a wired network. As Jha is transmitting data over a near perfect medium, it is not faced with the issues of error correction at the same level as transmitting over air. A person skilled in the art would not look to Jha for guidance with the issue of dealing with the transmission of service data protocols using a common PDU, as the issues faced in the form of interference, dropped packets, automatic retransmission request (ARQ), error correcting codes, etc., would not be present in the teaching of Jha.

In the Office Action, Claims 8, 26-29, 34, 35, 38 and 40-43 were rejected as being unpatentable over Zhang in view of Sturza. Applicant respectfully traverses this ground of rejection.

Sturza discloses a two-way communication system for subscribers to access a wide area network, using radio communication. Sturza does not provide any teachings or suggestions to overcome the shortcomings of Zhang described above with regard to the respective parent claims of 8, 26-29, 34, 35, 38 and 40-43.

In the Office Action, Claim 16 was rejected as being unpatentable over Zhang in view of the common knowledge of the art. Applicant respectfully submits that the respective parent

claim is patentable over Zhang as set forth above. Therefore claim 16 is patentable for at least those reasons.

In the Office Action claims 30-33, 36-37, and 44 were rejected as being unpatentable over Zhang in view of Sturza as applied to claims 29 and 43, and further in view of Jha. Applicant respectfully submits that the respective parent claims are patentable over Zhang as set forth above. Therefore these claim are patentable for at least those reasons. Furthermore, Applicant re-iterates that Jha should not be considered applicable to the present application.

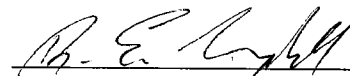
CONCLUSION

The Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to initiate the same with the undersigned.

Respectfully submitted,

Dated:

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